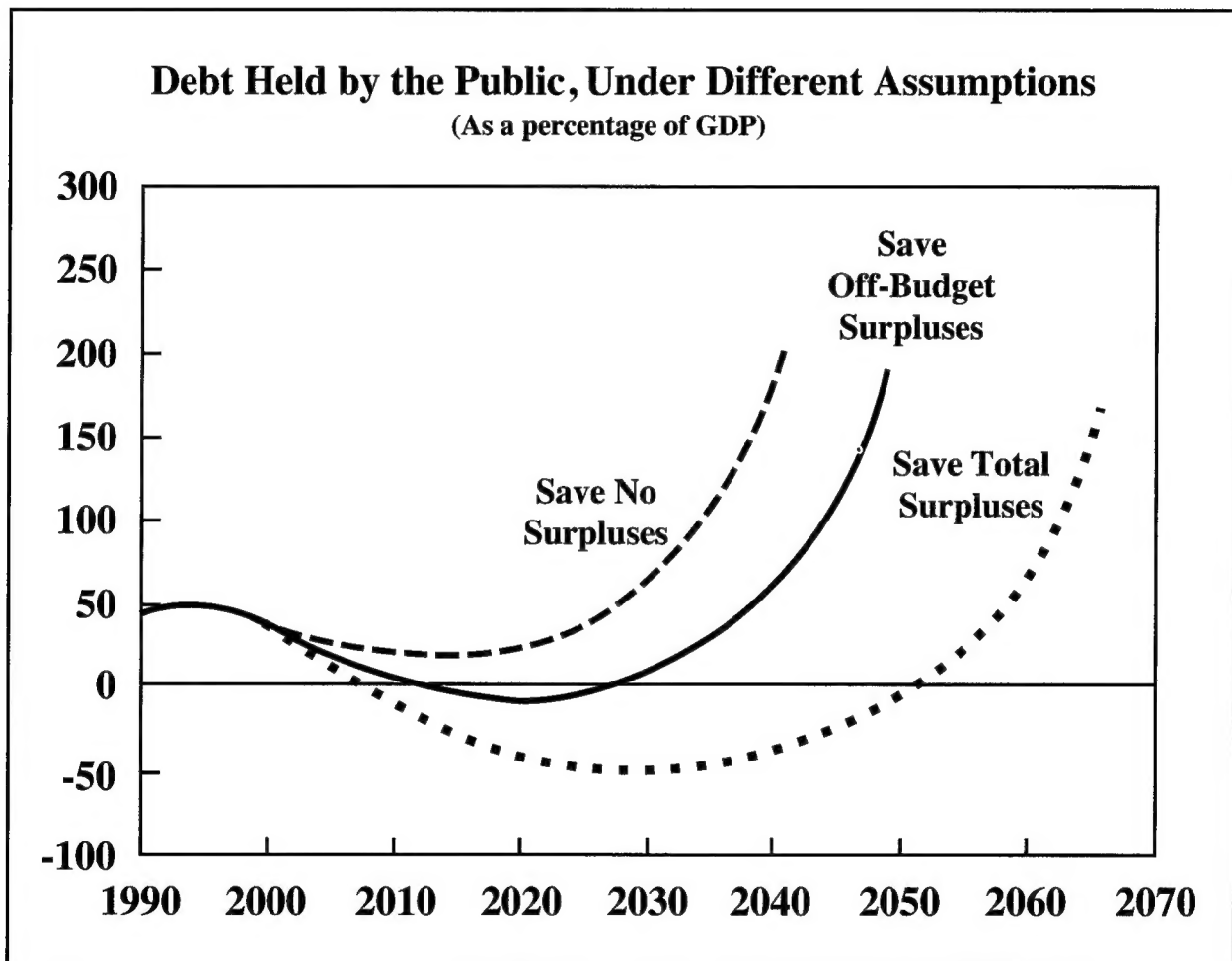


# The Long-Term Budget Outlook



A REPORT TO THE SENATE AND  
HOUSE COMMITTEES ON THE BUDGET

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# **THE LONG-TERM BUDGET OUTLOOK**

The Congress of the United States  
Congressional Budget Office

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### **NOTES**

Unless otherwise indicated, data in this report are based on calendar years.

Numbers in the text and tables may not add up to totals because of rounding.

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# Preface

**T**his report examines some of the pressures on the federal budget that are likely to develop over the next 75 years. It is based on the Congressional Budget Office's (CBO's) 10-year baseline projections of July 2000. In accordance with CBO's mandate to provide objective and impartial analysis, this document contains no recommendations.

Ben Page of CBO's Macroeconomic Analysis Division prepared the report under the direction of Robert Dennis and Douglas Hamilton. David Arnold, John McMurray, and Eric Warasta provided research assistance. Paul Cullinan, Arlene Holen, Jeff Holland, Deborah Lucas, Ralph Smith, and Susan Tanaka offered helpful comments.

Leah Mazade edited the report, and Christine Bogusz proofread it. Dorothy Kornegay and Verlinda Lewis-Harris helped produce draft versions. Kathryn Quattrone prepared the document for publication, and Annette Kalicki prepared the electronic versions for CBO's Web site. Barry Anderson designed the cover.



Dan L. Crippen  
Director

October 2000

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# The Long-Term Budget Outlook

**P**rojected growth in spending on the federal government's big health and retirement programs—Medicare, Medicaid, and Social Security—dominates the long-run budget outlook. If current policies continue, that spending is likely to grow significantly faster than the economy as a whole over the next few decades. By 2040, the Congressional Budget Office (CBO) projects those outlays will rise to about 17 percent of gross domestic product (GDP)—more than double their current share.

The expected surge in health and retirement spending stems from three fundamental factors. First, the large baby-boom generation will begin to reach retirement age within the next decade or so and become eligible to receive benefits from Social Security and Medicare. Second, people are likely to live longer than they did in the past and spend more time in retirement. Third, advances in medical technology will probably keep pushing up the cost of providing health care.

The demographic changes projected over the coming decades will significantly increase the number of retirees per worker in the labor force and affect both sides of the federal government's budgetary ledger. In 1960, 5.1 workers supported each beneficiary in the Social Security program; today, the ratio is about 3.4 to 1, and in 2040, it is projected to fall to just 2.1 workers per beneficiary. As a result, the growth of federal outlays for Social Security and Medicare will climb rapidly, whereas the growth of revenues from payroll taxes (which largely finance those programs now) will slow.

CBO prepares long-term projections (covering up to 75 years) that illustrate what could happen to the budget and the economy if federal policies do not change in response to the rising share of spending on health and retirement programs. Those projections forecast the government's expenditures, revenues, and economic output under a variety of budgetary and economic assumptions. Under most of those assumptions, CBO's long-term projections indicate that the share of GDP devoted to federal health and retirement programs will climb sharply and that an imbalance between spending and revenues will emerge.

"Saving" most or all of the budget surpluses that CBO projects over the next 10 years—using them to pay down debt—would have a positive impact on the projections and substantially delay the emergence of a serious fiscal imbalance. Yet under most of the assumptions CBO used, a fiscal imbalance eventually develops whether or not surpluses are realized. If the nation's leaders do not change current policies to eliminate that imbalance, federal deficits are likely to reappear and eventually drive federal debt to unsustainable levels. In turn, those fiscal developments could significantly slow the growth of the economy.

How can policymakers respond to the challenge of rising pressures on health and retirement spending? Certainly, one way is for the federal government to pursue policies that foster economic growth. Although growth cannot alter basic demographic trends, it can ease the burden of higher spending by making more resources available to workers and retirees. For instance, running surpluses in the budget adds to na-

tional saving (total saving by all sectors of the economy) and provides more funds to finance investment in productive capital, such as factories or information systems, leading to faster growth. Tax and regulatory policies that encourage people to work and save more, or government spending that is oriented toward investment rather than current consumption, can also enhance economic growth.

Even so, CBO's analysis suggests that growth alone is unlikely to eliminate projected long-term imbalances because it may lead to increased spending on many programs. For example, under current law, initial benefits in the Social Security program rise with GDP because benefits are based on the history of recipients' earnings, which tend to rise along with output. The cost of providing medical benefits may also increase in tandem with economic growth as the wages earned by health care workers climb; CBO's long-term projections follow those of the Medicare trustees in assuming such a rise.

Projections of future economic growth and fiscal imbalances are quite sensitive to assumptions about what policymakers will do with the budget surpluses that are projected to arise over the next decade. Total budget surpluses affect the economy because they influence the level of national saving and therefore capital investment.<sup>1</sup> Total surpluses also affect future budgets by reducing the amount of federal debt held by the public, which lowers the interest payments that future revenues must finance. To show how much surpluses affect the long-term budget outlook, CBO presents projections under three different policy assumptions that range from saving all of the surpluses projected over the next 10 years to spending all of them.

CBO's analysis of alternative policies for the surplus focuses on total surpluses rather than on surpluses in the government's trust funds. Unlike total budget surpluses, trust fund surpluses do not necessarily add to national saving because the assets they appear to have may be offset by liabilities elsewhere in the budget. Therefore, they provide an incomplete view of overall fiscal policy. For example, transfer-

ring general revenues to a trust fund would increase the surplus in the fund but reduce the surplus in the rest of the budget by the same amount. Such a transfer would affect national saving only if it prevented the transferred funds from being used to finance tax cuts or higher spending.

Caution is necessary in interpreting projections of the budget and the economy that extend many decades into the future because they are, by their nature, highly uncertain. CBO's long-term projections depend critically on demographic assumptions about future rates of mortality, fertility, and immigration and on economic assumptions about saving, productivity, and the supply of labor, to name only a few. But long-term outcomes could turn out to be very different from current forecasts. Moreover, the projections take into account some but not all of the potentially important interactions between the budget and the economy. For these reasons, CBO's analysis does not focus on a single projection but instead examines the budget and economic outlook under a variety of alternative demographic and economic assumptions as well as under alternative assumptions about fiscal policy.

A further caveat is that CBO's long-term projections are not predictions of what CBO thinks is likely to happen. Instead, CBO uses simple assumptions to represent aspects of current policies and then projects what would happen if those policies were mechanically followed into the future. Of course, that kind of stasis is unlikely: policymakers will surely modify tax and spending policies over the years. Nevertheless, the projections are a useful benchmark because they demonstrate the extent to which changes in policy will be necessary and provide a rough estimate of their magnitude.

CBO produced its first long-term projections in 1996, and the long-term outlook has improved dramatically since then, despite the imbalance between spending and revenues that still looms farther down the budgetary road.<sup>2</sup> Much of the improvement stems from unexpected increases in revenues and slower-than-anticipated growth in some spending rather than from changes in policy. For example, CBO's current pro-

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1. The total budget comprises both on-budget and off-budget accounts; off-budget accounts consist of the spending and revenues of Social Security and the Postal Service.

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2. See Chapter 4 in Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1997-2006* (May 1996).



jections reflect its updated 10-year baseline, which includes a higher level of revenues (measured as a share of GDP) and slower growth in spending on health than were projected in 1996. Also brightening the budgetary picture is faster projected growth in productivity, reflecting the strong rise in that economic indicator over the past five years.

To a degree, those positive factors are offset by changes in some of CBO's long-term assumptions—in particular, a shift to faster long-run growth in costs per enrollee in Medicare and Medicaid. CBO's earlier midrange projections adopted the Medicare trustees' assumption that the rise in costs would slow on its own between 2010 and 2025 to about the rate of growth of wages. However, as CBO noted then, such an assumption might be overly optimistic. CBO's current midrange assumption is that the growth of those costs will slow by only half that amount over the same period. (See the appendix for details of that change and of CBO's other midrange assumptions.)

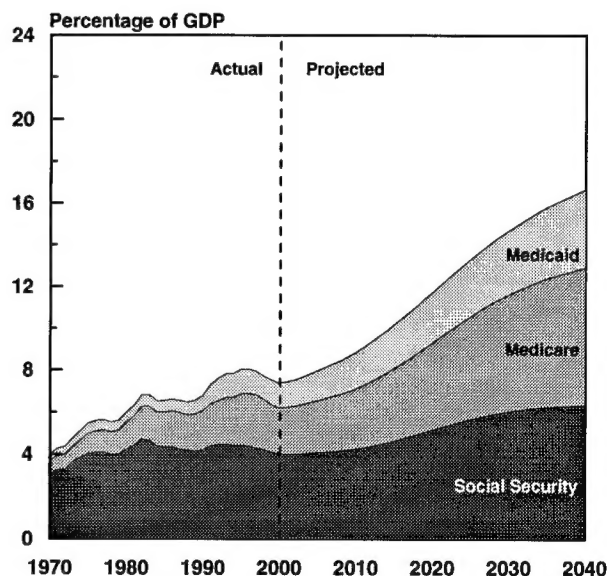
## Long-Term Pressures on Spending

Spending on Medicare, Medicaid, and Social Security under current law will rise significantly over the next three decades. And if proposals to increase benefits in any of those programs are adopted, spending growth will be even more rapid. However, the size of projected increases in such spending is sensitive to the economic and demographic assumptions used to generate the projections. This analysis focuses on assumptions about three important variables: the costs per enrollee in federal health programs, the demographics of the U.S. population, and productivity (see Table 1 on page 12).

Under one midrange set of long-term assumptions about those variables, spending on the major health and retirement programs will more than double, rising from 7.5 percent of GDP in 1999 to over 16.7 percent in 2040 (see Figure 1). (Expressing outlays as a percentage of GDP compares levels of spending with the total resources available—a useful measure of the relative burden of the spending.)

Under reasonable alternative assumptions—more optimistic or more pessimistic ones—the increase in spending would still be substantial, but its size could vary considerably. The cost of providing health benefits, in particular, has a pronounced effect on projections of spending and is extremely difficult to estimate. Both public and private medical expenditures have tended to grow faster than the economy over the past few decades. That situation cannot continue indefinitely, or health spending will eventually crowd out all other consumption. At some point, pressure from consumers and employers for more affordable health care will probably slow the growth of costs in the private sector, and that slowdown is likely to spill over into the federal government's health programs. The timing and extent of any such slowdown, however, are extremely uncertain.

**Figure 1.**  
Spending for Social Security, Medicare, and Medicaid Under CBO's Midrange Assumptions



SOURCE: Congressional Budget Office.

NOTES: Spending is based on measures from the national income and product accounts. See the appendix for details of CBO's midrange assumptions.

After 1999, CBO assumed that budget surpluses in the first 10 years match the off-budget surpluses in the inflated version of its 10-year current-law baseline.

CBO's long-term projections of health spending are driven by several factors: the projected growth of wages in the economy, which influences the wages paid to health care workers; changes in the number of enrollees and the mix of ages among them, which help determine the demand for health care; and "excess" growth in costs, which comes from changes in medical practices and advances in medical technology that raise expenditures (among other things). The most difficult of those factors to project, and one that has a powerful effect on spending as a share of GDP, is excess growth in costs. Such growth in the Medicare program has averaged about 2 percent a year over the past decade and is projected to stay about the same, on average, over the next decade. CBO's midrange assumption is that excess cost growth will slow to about 1 percent between 2010 and 2025 and remain at that rate thereafter.

As noted earlier, CBO's assumption implies a higher rate of cost growth than the rate used in its past midrange projections. The Medicare trustees remain more optimistic: they assume that cost growth in excess of wages and demographic changes will slow not by half but to zero in 2025 and thereafter. Under that assumption, spending on Social Security, Medicare, and Medicaid would rise to 14.3 percent of GDP by 2040 (see Table 2 and Figure 2). If, by contrast, growth in Medicare's costs did not slacken and growth in Medicaid's costs slowed only to the same rate as Medicare's, spending on the three programs would rise to 19.6 percent of GDP by 2040.

The number of people of different ages within the population also influences the degree to which spending will rise. The Social Security trustees use three different assumptions about population in their projections: an intermediate assumption, a "high-cost" assumption that projects more elderly and fewer working-age people, and a "low-cost" assumption that projects fewer elderly and more working-age people. Using the high-cost, or pessimistic, assumption, CBO projects that Social Security, Medicare, and Medicaid will rise to 18.5 percent of GDP by 2040 (see Table 2 and Figure 2). And even under the more optimistic low-cost assumption, CBO projects that spending will rise to 15.1 percent of GDP.

A further influence on projected spending as a share of GDP is the rate of growth of productivity. Faster growth in productivity implies higher levels of

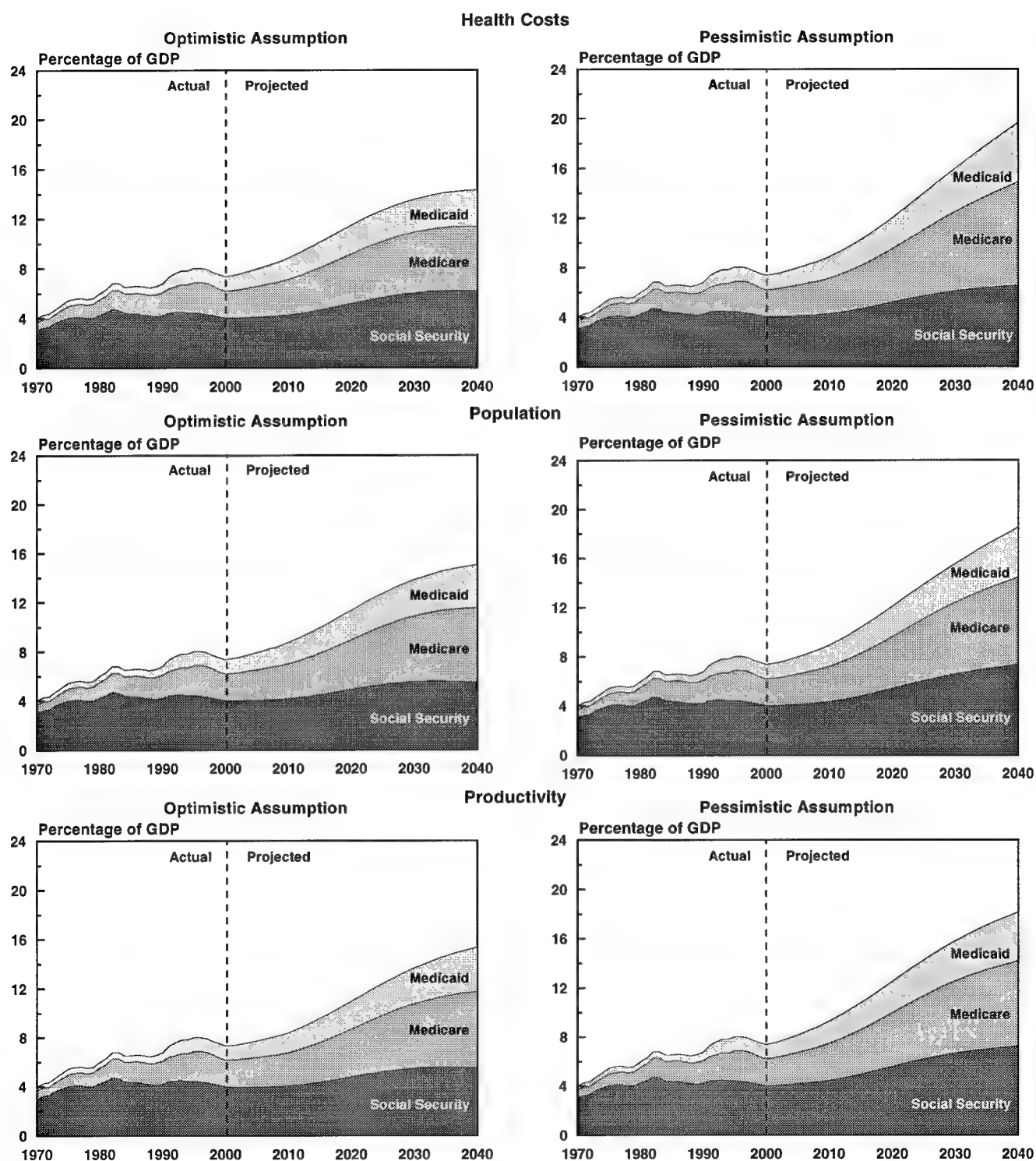
both GDP and wages throughout the projections. Those higher values reduce spending for Medicare and Medicaid as a share of GDP over the first 10 years of the projection period, but after 2010, growth in both that spending and GDP increases by about the same amount because CBO assumes that wage growth is reflected in outlays for those programs.

Social Security spending also rises when productivity increases because the program's initial benefits are based on an enrollee's history of earnings (which, as noted above, respond to changes in productivity growth). Social Security spending does not rise as quickly as GDP, however, because new beneficiaries with histories of higher earnings (and therefore higher benefits) enter the system slowly over time, whereas productivity affects GDP immediately. Therefore, the ratio of Social Security spending to GDP is somewhat lower when productivity growth is higher. Moreover, faster economic growth can make financing a given share of spending less burdensome because growth increases the total amount of economic resources available for all uses.

Total factor productivity (TFP) is the productivity measure that CBO uses as an input in its long-term projections. TFP measures the amount of output that can be produced with given quantities of labor and capital; it can be thought of as a measure of technology. CBO's midrange assumption is that over the long run, TFP grows by 1.7 percent annually, the same rate as its annual average over the postwar period, adjusted for changes in the way prices are measured. If TFP grew by half a percentage point more in each year of the projection—the optimistic assumption—spending on Social Security, Medicare, and Medicaid would be 15.4 percent of GDP by 2040 (see Table 2 and Figure 2). If TFP grew by half a percentage point less—the pessimistic assumption—spending would rise to 18.1 percent of GDP.

These calculations offer some perspective on the likely increase in outlays over the long term for Social Security, Medicare, and Medicaid under current law. CBO used a particular set of assumptions to generate its projections, but its results would be similar under most reasonable assumptions: over the long term, if policies do not change, spending on health and retirement programs will rise significantly as a share of the U.S. economy.

**Figure 2.**  
**Spending for Social Security, Medicare, and Medicaid Under Alternative Assumptions**  
**About Health Costs, Population, and Productivity**



SOURCE: Congressional Budget Office.

NOTES: Spending is based on measures from the national income and product accounts.

Each projection is based on assumptions about health costs, population, and productivity (among others). In generating those projections, CBO varied only one assumption, as indicated, and held the other two at their midrange levels (see the appendix for details).

After 1999, CBO assumed that the tax share of GDP and the level of discretionary spending match those under its "save off-budget surpluses" assumption.

## The Budgetary and Economic Implications of an Aging Population and Rising Health Costs

The fraction that policymakers save from the surpluses projected over the next 10 years has important implications for the budget and the economy over the long term. This section presents projections under several different assumptions about those surpluses. It also reviews the sensitivity of projections of the overall budget to alternative assumptions about health costs, population, and productivity.

CBO uses several bases for its long-term projections. Changes in demographics and the cost of health care drive projected spending on health and retirement programs; for most other categories of the federal government's spending and revenues, CBO bases its projections on simple rules. The projections incorporate some interactions between the budget and the economy. For example, surpluses increase investment in productive capital and therefore promote economic growth and reduce interest rates. In addition, faster economic growth boosts revenues relative to some categories of spending.

CBO's long-term projections imply higher spending on health and retirement programs, but they assume that taxes are a constant share of output in the long run. As a result, under most assumptions, a long-term imbalance exists between costs and revenues. CBO's summary measure of that projected imbalance—the fiscal gap—is useful for estimating both the imbalance's overall size and its sensitivity to changes in assumptions about fiscal policy or about economic and demographic variables.

The fiscal gap, which is expressed as a percentage of GDP, is the size of the immediate and permanent increase in revenues or decrease in outlays that would be necessary to keep federal debt at or below its current share of GDP (about 40 percent) through 2074. Although those policy changes would balance revenues and spending over the next 75 years, there

would be a large deficit at the end of the period, and debt would rise rapidly in the years that followed.<sup>3</sup>

The Social Security trustees use a different yardstick to estimate the imbalance between certain kinds of spending and revenues over the next 75 years. Their measure—the actuarial balance in the Social Security trust funds—applies only to the revenues and spending of the Social Security system in isolation from the rest of the government's fiscal activities. Therefore, unlike the fiscal gap, the trustees' measure does not incorporate the effects of on-budget surpluses over the near term or the impact of fast-growing programs such as Medicare and Medicaid over the long term. Accounting entries that shift money into or out of the trust funds (without altering the government's overall spending) affect the trustees' measure but not the fiscal gap. Another difference between the two measures is that the trustees' calculation is generally presented as a share of taxable payroll rather than of GDP. (Taxable payroll is currently about 41 percent of GDP. The trustees project that it will decline gradually to about 37 percent in 2040.)

The fiscal gap is a convenient way to measure the long-term imbalance between overall spending and revenues under different policies, but it does not—indeed, cannot—reflect all of the possible ways those policies could affect the economy. For example, in calculating the gap, CBO's projections take into account how an increase in overall tax revenues would alter government saving, which directly affects national saving and the capital stock. But they do not incorporate the effects of an increase in marginal tax rates (the rate of tax on the last dollar earned) on people's incentives to work and save. Raising those rates would probably reduce the amount that people worked and saved, but to estimate how much would require specifying the exact changes to be made in tax policy.<sup>4</sup> Similarly, the fiscal gap does not show how the gov-

3. To balance spending and revenues indefinitely would require an increase in taxes or a decrease in spending significantly larger than the fiscal gap. The gap is calculated only over 75 years because the population projections published by the Social Security trustees cover only that period and CBO's long-term projections are based on those estimates.

4. For an examination of the effects of tax changes on saving and labor supply, see Congressional Budget Office, *The Economic Effects of Comprehensive Tax Reform* (July 1997).

ernment's investments, such as funding for research or education, may influence private output.<sup>5</sup> The economic effects of changes in taxes or spending in CBO's calculations of the fiscal gap therefore correspond more to the effects of policies such as lump-sum tax credits or changes in government consumption, rather than to the effects of policies that are oriented toward growth.

Another drawback to the fiscal gap is that it focuses on the budget balance. The economic effects of policies influence the gap only as much as they influence the balance, which means that even a substantial policy change that did not alter the balance between spending and revenues—such as a cut in marginal tax rates coupled with a decrease in spending—would not affect the gap. However, by increasing incentives to work and save, such a policy could boost future GDP, which would enable later generations to shoulder more easily the burden of growing spending on health and retirement programs.

In developing its long-term projections, CBO starts with its 10-year baseline projections of the budget, which reflect current law (see Table 3). But the budget's path and, in particular, the path of surpluses over the next decade are highly uncertain because they are subject to legislative action and shifts in the economy. CBO thus prepared its long-term projections using three different assumptions about surpluses over the next 10 years:

- o The "save off-budget surpluses" alternative assumes that surpluses equal CBO's baseline forecast for off-budget surpluses (off-budget surpluses consist almost entirely of the surpluses of the Social Security trust funds);
- o The "save total surpluses" alternative assumes that surpluses equal CBO's baseline projections for total surpluses; and
- o The "save no surpluses" alternative assumes that surpluses will be zero in each of the next 10 years.<sup>6</sup>

## Saving Off-Budget Surpluses

Policymakers have proposed a number of policies that would effectively reduce total surpluses below their levels in CBO's current-law baseline but preserve off-budget surpluses. If off-budget surpluses were saved, and health costs, population, and productivity followed CBO's midrange assumptions, the federal budget would run large surpluses and the government would pay down the federal debt over the next 13 years (see Table 4 and Figure 3). After retiring debt held by the public, the government would continue to run surpluses and by 2020 would have accumulated a stock of assets equal to about 7 percent of GDP, or about 1½ percent of the nation's net wealth. (Such assets might include equities or debt issued by private firms, or foreign government debt.)

Accumulating assets of such magnitude would be unprecedented in U.S. history and would raise questions about direct involvement by the government in private firms. Other countries have built up significant stocks of government-owned assets.<sup>7</sup> In the United States, however, that kind of policy might prove politically unpalatable.<sup>8</sup> If the federal government actually accumulated the level of assets in CBO's projection, the income it would earn on those invest-

5. CBO examines the effects of government investment in *The Economic Effects of Federal Spending on Infrastructure and Other Investments*, CBO Paper (June 1998).

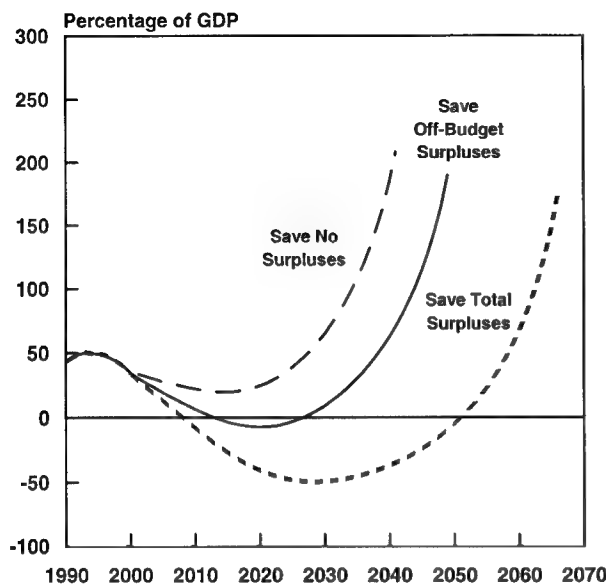
6. To be precise, the "save total surpluses" alternative uses the inflated variant of CBO's baseline, which assumes that discretionary spending grows at the rate of inflation over the next 10 years (such spending is determined by annual appropriations rather than by current law). The other two alternatives modify the current-law baseline by raising discretionary spending and cutting taxes equally to save the off-budget surpluses or to save no surpluses. A fourth alternative for surpluses that has received some attention is to maintain surpluses that equal the off-budget surpluses plus the surpluses in the Medicare trust funds. CBO's long-term projections of the budget and the economy under that alternative are quite similar to those under the "save off-budget surpluses" assumption.

7. Norway, for example, has accumulated assets (primarily foreign bonds and equities) in its Government Petroleum Fund totaling more than a fifth of GDP.

8. Federal Reserve Chairman Alan Greenspan, among others, has argued that the government's investing in private assets could be problematic. See his statement before the Subcommittee on Finance and Hazardous Materials of the House Committee on Commerce, March 3, 1999.



**Figure 3.**  
**Projections of Debt Held by the Public Under**  
**Different Assumptions About Saving Surpluses**



SOURCE: Congressional Budget Office.

NOTES: All projections use midrange long-term assumptions (see the appendix for details).

Off-budget surpluses consist of the surpluses of the Social Security trust funds and the Postal Service. Under the "save off-budget surpluses" assumption, on-budget surpluses in 2000 through 2010 are zero, and off-budget surpluses match the values in Table 3.

Under the "save total surpluses" assumption, total surpluses (both on- and off-budget) in 2000 through 2010 match the values in Table 3.

Under the "save no surpluses" assumption, the total surplus in each year from 2000 through 2010 is zero (an on-budget deficit offsets the off-budget surplus).

ments could exceed half a percent of GDP by 2020, compared with federal interest costs of 2.8 percent of GDP in 1999.<sup>9</sup>

Despite those assets, however, the growing expenditures projected for health and retirement programs would quickly push the budget back into deficit under this alternative, and the stock of assets would be spent down by 2027. Debt would then begin to grow

rapidly. Renewed deficits would help slow economic growth and increase interest rates.

The fiscal gap under the "save off-budget surpluses" alternative and midrange long-term assumptions would be 2.2 percent of GDP. Such an imbalance would require permanent tax hikes, or spending cuts, equaling that amount to keep debt below its current share of GDP through 2074. (For comparison, 2.2 percent of GDP in 1999 totaled more than \$200 billion.)

Changing CBO's long-term assumptions about the growth of excess health costs, population, or productivity would significantly change the projections.<sup>10</sup> If excess cost growth slowed to zero (the Medicare trustees' assumption) rather than by half (CBO's midrange assumption), the fiscal gap would fall to 0.7 percent of GDP (see Table 5). But if the growth in Medicare costs did not slow at all after 2010 and if Medicaid cost growth (which is now higher than that of Medicare) dropped only to the Medicare rate, the gap would rise to 5.0 percent of GDP. Such an increase implies that much more severe tax increases or spending cuts elsewhere in the budget would be necessary to pay for Social Security, Medicare, and Medicaid. Changing from midrange to optimistic or pessimistic assumptions about the population or about productivity growth could increase or reduce the estimated fiscal gap by between 1 and 1½ percentage points (see Table 5).

## Saving Total Surpluses

Thus far, CBO's analysis has focused on projections that assume that only off-budget surpluses are saved. But total surpluses could well be higher or lower than

9. In calculating the income that the federal government would earn, CBO assumed that the government would invest in low-risk nonfederal assets that paid about the same rate of interest as federal government bonds.

10. The alternative assumptions about population and productivity affect the economy over the first 10 years of the projection period, which in turn affects the budget. Therefore, surpluses under those assumptions would no longer match CBO's 10-year baseline projections of off-budget surpluses, as in the previous case. Instead, the share of GDP absorbed by taxes and the dollar amount of discretionary spending remain the same as in the "save off-budget surpluses" alternative. Taxes and discretionary spending are treated differently because tax revenues tend to move roughly with GDP in the absence of legislative changes. In contrast, policymakers must act to change discretionary spending, which means it may not respond quickly to changes in output. The alternative assumptions about excess medical costs would not be applicable until after 2010. Consequently, surpluses under those assumptions match those in the "save off-budget surpluses" alternative.

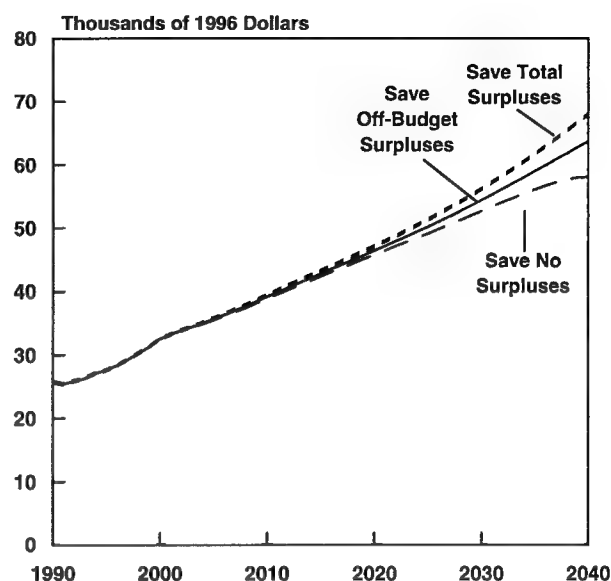
the off-budget surpluses projected over the next 10 years. For example, policymakers might forgo cutting taxes or increasing spending over that period and thereby save all projected surpluses.<sup>11</sup> That policy would imply that after 2010, taxes would equal 20 percent of GDP (a share only slightly lower than the postwar high reached in 1999). Discretionary spending would be 5.2 percent of GDP (a full percentage point below its current share).

Saving total surpluses rather than saving only off-budget surpluses would considerably reduce long-term imbalances. (The fiscal gap would be 0.8 percent of GDP.)<sup>12</sup> The government's net indebtedness would fall to zero within a decade, and government assets would total almost 50 percent of GDP by 2030 (see Table 6). (Of course, the government's ownership of assets on that scale would prompt even greater concern than the relatively more modest accumulations under the "save off-budget surpluses" alternative.) If the government saved all of the surpluses projected over the next decade, serious budgetary problems would not arise until the second half of the century. That brighter budget outlook would also lead to higher national saving and investment and higher growth in GDP, both overall and per person (see Figure 4).

Yet even under that more optimistic scenario, the ever-growing expenditures for health and retirement programs would ultimately push the budget back into deficit and exhaust any accumulated assets. After that, debt would begin to grow rapidly. By 2063, federal debt would exceed 100 percent of GDP.

CBO's estimate of the long-term fiscal imbalance under this assumption (0.8 percent of GDP) is little changed from the estimate published in December 1999 (0.5 percent). That stability reflects offsetting changes. On one hand, the budget outlook over the

**Figure 4.**  
**Real GDP per Capita Under Different**  
**Assumptions About Saving Surpluses**



SOURCE: Congressional Budget Office.

NOTES: All projections use midrange long-term assumptions (see the appendix for details).

Off-budget surpluses consist of the surpluses of the Social Security trust funds and the Postal Service. Under the "save off-budget surpluses" assumption, on-budget surpluses in 2000 through 2010 are zero, and off-budget surpluses match the values in Table 3.

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next 10 years is now much improved from the outlook that CBO forecast a year ago. On the other hand, that improvement is outweighed by CBO's projection of higher growth in costs for Medicare and Medicaid.<sup>13</sup> Projected federal debt is lower than in the December 1999 projections for about 65 years, but the faster growth in health costs eventually leads to higher debt and deficits (see Figure 5).

11. If the recent run of unusually good economic and budgetary news continues, then similar surpluses could be maintained after 2010 even with limited tax cuts and spending increases.

12. CBO's previous long-term projections, which assumed that all surpluses were saved over the first 10 years, also assumed that discretionary outlays would stay within the legislated caps on spending through 2002 and therefore grow at less than the rate of inflation. (See, for example, Congressional Budget Office, *The Long-Term Budget Outlook: An Update*, December 1999.) CBO's current assessment is that if the caps were adhered to, the fiscal gap under midrange long-term assumptions would be 0.2 percent of GDP.

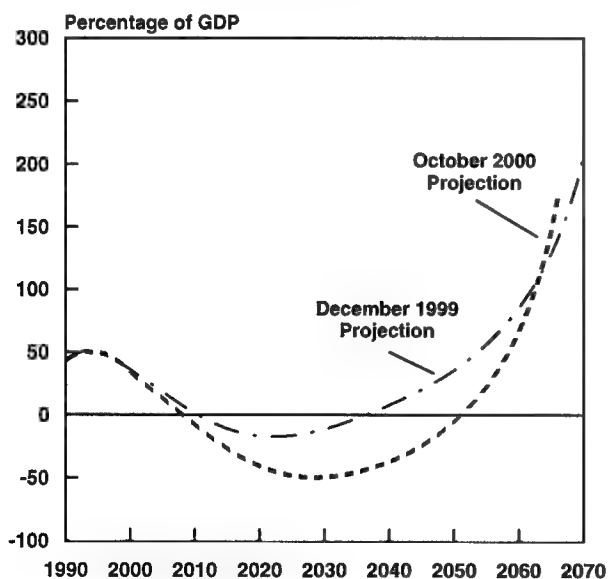
13. Under CBO's old midrange assumption about growth in health costs, the estimated fiscal gap would now be -0.6 percent of GDP under the "save all surpluses" assumption—meaning that tax cuts or spending increases would be required to keep debt in 2074 at its current share of GDP.

CBO's long-term projections assuming only off-budget surpluses are saved have changed in a similar way since last December. But off-budget surpluses have risen by much less than have total surpluses over the past year, which leads to less projected improvement in the budget outlook over the near term (see Figure 6). CBO's revised assumption of faster growth in health costs implies that debt will exceed the previously projected share of GDP after 45 years.

## Saving No Surpluses

In the past, balancing the total budget has been a major goal of both the Congress and the President. In recent years, though, a strong economy and unexpectedly high tax receipts, along with some changes in tax and spending policies, have pushed the budget into surplus and allowed the federal government to exceed

**Figure 5.**  
**Projections of Debt Held by the Public Under**  
**CBO's "Save Total Surpluses" Assumption**

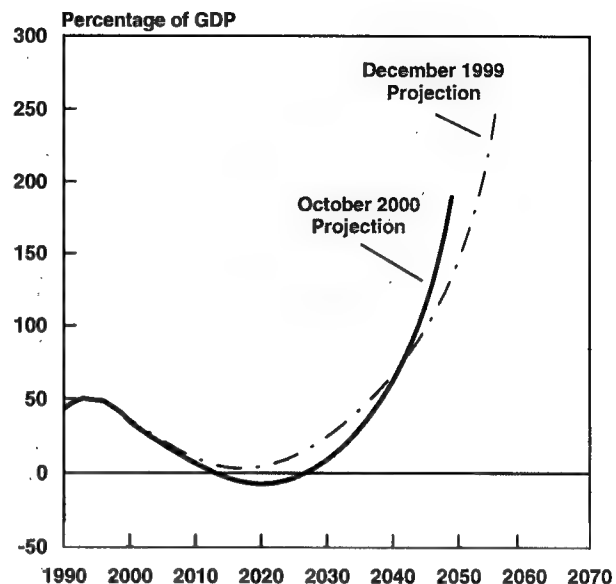


SOURCE: Congressional Budget Office.

NOTES: All projections use midrange long-term assumptions (see the appendix for details).

Under the "save total surpluses" assumption, total surpluses (both on- and off-budget) in 2000 through 2010 match the values in Table 3.

**Figure 6.**  
**Projections of Debt Held by the Public Under**  
**CBO's "Save Off-Budget Surpluses" Assumption**



SOURCE: Congressional Budget Office.

NOTES: All projections use midrange long-term assumptions (see the appendix for details).

Off-budget surpluses consist of the surpluses of the Social Security trust funds and the Postal Service. Under the "save off-budget surpluses" assumption, on-budget surpluses in 2000 through 2010 are zero, and off-budget surpluses match the values in Table 3.

that goal. Policymakers could, of course, return to a goal of budget balance. That policy would imply using all surpluses projected over the next 10 years to cut taxes or increase spending.<sup>14</sup> If taxes and spending were changed by equal amounts to eliminate surpluses, then in 2010 and succeeding years, taxes would amount to 18.8 percent of GDP, and discretionary spending would be 6.4 percent. With no surpluses, fiscal problems would develop considerably sooner than they would under alternatives that saved at least some of the surplus (see Table 7). The fiscal gap under the "save no surpluses" assumption would be 3.2 percent.

14. Alternatively, the total budget could return to approximate balance through tax and spending policies enacted without an express goal of achieving balance.



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## Conclusion

The aging of the large baby-boom generation and growth in the cost of health care will dramatically increase spending for federal health and retirement programs under current law. If policymakers act to ensure that the budget remains in surplus over the near term, the resulting drop in debt held by the public and the lower interest costs that follow will help offset some portion of that increase. Preserving the full amount of the projected surpluses could substantially delay the onset of fiscal problems and help boost GDP, providing a larger base of resources from which to meet the increased demand for spending. But even if policymakers preserved all projected surpluses, spending and revenues would be unlikely to balance over the next 75 years. And if only projected off-budget surpluses were saved, fiscal problems would arise sooner, and the imbalance between spending and revenues would be considerably larger.

What policies besides saving surpluses might alleviate future fiscal problems? Policymakers could directly reduce the rate of increase in spending on Social Security, Medicare, and Medicaid by reforming

those programs in ways that would reduce benefits relative to current law or provide health care more efficiently.<sup>15</sup> Another approach would be to enhance economic growth by reducing inefficiencies—for example, by changing the tax system to encourage people to work and save more or by improving regulatory strategies. With the economy growing faster, future taxpayers would have higher incomes and would be better able to bear the burden of increased spending.

Alternatively, policymakers might decide that the growing burdens of an aging population and rising medical costs should be borne by future workers, who would probably have incomes that were much higher than those of current workers. That approach would leave future Congresses to decide how to address the gap between promised benefits and anticipated revenues.

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15. For examples of such reforms in Social Security and Medicare, see Congressional Budget Office, *Long-Term Budgetary Pressures and Policy Options* (May 1998). For additional Medicare and Medicaid reforms, see Congressional Budget Office, *Budget Options* (March 2000).

**Table 1.**  
**Alternative Assumptions About Health Costs, Population, and Productivity**  
**in Calendar Year 2030 (In percent)**

	Assumption		
	Optimistic	Midrange	Pessimistic
Annual Excess Growth in Health Costs per Enrollee <sup>a</sup>	0	1.1	2.1
Old-Age Ratio <sup>b</sup>	31.0	34.0	37.0
Annual Growth in Total Factor Productivity <sup>c</sup>	2.2	1.7	1.2

SOURCE: Congressional Budget Office.

- a. Annual growth in costs per enrollee in Medicare and Medicaid in excess of nominal growth in wages, adjusted for the age mix of enrollees. For each alternative assumption, growth in health expenditures follows CBO's 10-year baseline projections from 2000 to 2010 and then moves to the long-run rate shown above over the next 15 years.
- b. The ratio of people age 65 and over to those ages 18 to 64. The assumptions about population under CBO's optimistic, midrange, and pessimistic alternatives match the low-cost, intermediate, and high-cost population projections of the Social Security trustees.
- c. For the midrange assumption, annual growth follows CBO's 10-year baseline projections from 2000 to 2010 and then moves to the long-run rate shown above over the next 15 years. Annual growth under the optimistic assumption is 0.5 percentage points higher, and that in the pessimistic alternative 0.5 percentage points lower, in each year.

**Table 2.**  
**Spending for Social Security, Medicare, and Medicaid in Calendar Year 2040 Under**  
**Alternative Assumptions About Health Costs, Population, and Productivity**

	Spending in 2040 (Percentage of GDP) <sup>a</sup>
Health Costs	
Optimistic Assumption	14.3
Pessimistic Assumption	19.6
Population	
Optimistic Assumption	15.1
Pessimistic Assumption	18.5
Productivity	
Optimistic Assumption	15.4
Pessimistic Assumption	18.1
<b>Memorandum:</b>	
Midrange Assumption	16.7

SOURCE: Congressional Budget Office.

NOTE: For comparison, spending in 1999 amounted to 7.5 percent of GDP.

- a. Each projection is based on assumptions about health costs, population, and productivity (among others). In generating those projections, CBO varied only one assumption, as indicated, and held the other two at their midrange levels (see the appendix for details). In addition, CBO assumed that the tax share of GDP and the level of discretionary spending match those under its "save off-budget surpluses" assumption.

**Table 3.**  
**The Budget Outlook Under Current Policies, Assuming That Discretionary Spending Grows at the Rate of Inflation After 2000 (By fiscal year, in billions of dollars)**

	Actual 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total, 2001- 2010
Surplus													
On-Budget	1	84	102	126	143	154	169	222	260	288	332	377	2,173
Off-Budget	<u>124</u>	<u>149</u>	<u>165</u>	<u>186</u>	<u>202</u>	<u>215</u>	<u>232</u>	<u>247</u>	<u>263</u>	<u>278</u>	<u>293</u>	<u>307</u>	<u>2,388</u>
Total	124	232	268	312	345	369	402	469	523	565	625	685	4,561

SOURCE: Congressional Budget Office, *The Budget and Economic Outlook: An Update* (July 2000).

**Table 4.**  
**Projections of Federal Receipts and Expenditures Under CBO's "Save Off-Budget Surpluses"**  
**Assumption, Calendar Years 1999-2040 (As a percentage of GDP)**

	1999	2010	2020	2030	2040
NIPA Receipts	20.2	19.2	19.2	19.2	19.2
NIPA Expenditures					
Federal consumption expenditures	5.1	4.8	4.7	4.7	4.7
Federal transfers, grants, and subsidies					
Social Security	4.1	4.3	5.2	6.0	6.4
Medicare	2.2	2.9	4.1	5.6	6.6
Medicaid	1.2	1.7	2.4	3.1	3.8
Other	3.5	2.8	2.8	2.8	2.8
Net interest	<u>2.8</u>	<u>0.9</u>	<u>-0.5</u>	<u>0.4</u>	<u>4.6</u>
Total	19.0	17.3	18.7	22.5	28.7
NIPA Surplus or Deficit (-)	1.2	1.9	0.5	-3.3	-9.5
<b>Memorandum:</b>					
Primary (Noninterest) Surplus or Deficit (-)	4.1	2.8	0	-2.9	-4.9
Debt Held by the Public <sup>a</sup>	39.8	6.7	-7.2	9.0	62.3
Gross Domestic Product (Trillions of dollars)	9.3	15.6	23.7	35.1	51.1

SOURCE: Congressional Budget Office.

NOTES: Under the "save off-budget surpluses" assumption, on-budget surpluses in 2000 through 2010 are zero, and off-budget surpluses match those in Table 3.

NIPA = national income and product accounts.

a. Negative debt represents nonfederal assets held by the government.

**Table 5.**  
**The Fiscal Gap Under Alternative Assumptions**

	Fiscal Gap (Percentage of GDP)
<b>Assumptions About Surpluses<sup>a</sup></b>	
Save Total Surpluses <sup>b</sup>	0.8
Save Off-Budget Surpluses <sup>c</sup>	2.2
Save No Surpluses <sup>d</sup>	3.2
<b>Assumptions About Health Costs, Population, and Productivity<sup>e</sup></b>	
Health Costs	
Optimistic Assumption	0.7
Pessimistic Assumption	5.0
Population	
Optimistic Assumption	1.0
Pessimistic Assumption	3.6
Productivity	
Optimistic Assumption	0.9
Pessimistic Assumption	3.3

SOURCE: Congressional Budget Office.

- a. Values were calculated using midrange assumptions about health costs, population, and productivity.
- b. Assumes that total surpluses (both on- and off-budget) in 2000 through 2010 match those in Table 3.
- c. Assumes that on-budget surpluses are zero and off-budget surpluses (from the Social Security trust funds and the Postal Service) match the values in Table 3.
- d. Assumes that the total surplus in each year from 2000 through 2010 is zero (an on-budget deficit offsets the off-budget surplus).
- e. Assumes off-budget surpluses are saved. Values were calculated using the shares of GDP for discretionary spending and taxes estimated in CBO's version of the baseline that assumes discretionary spending grows at the rate of inflation after 2000. Only one assumption is altered in calculating each value. See the appendix for details of the assumptions.

**Table 6.**  
**Projections of Federal Receipts and Expenditures Under CBO's "Save Total Surpluses" Assumption,**  
**Calendar Years 1999-2040 (As a percentage of GDP)**

	1999	2010	2020	2030	2040
NIPA Receipts	20.2	20.0	20.0	20.0	20.0
NIPA Expenditures					
Federal consumption expenditures	5.1	4.0	3.9	3.9	3.9
Federal transfers, grants, and subsidies					
Social Security	4.1	4.2	5.1	5.9	6.0
Medicare	2.2	2.8	4.1	5.6	6.5
Medicaid	1.2	1.7	2.4	3.0	3.7
Other	3.5	2.8	2.8	2.7	2.7
Net interest	<u>2.8</u>	<u>0.1</u>	<u>-2.2</u>	<u>-3.0</u>	<u>-2.6</u>
Total	19.0	15.7	16.1	18.1	20.4
NIPA Surplus or Deficit (-)	1.2	4.3	3.9	1.8	-0.4
<b>Memorandum</b>					
Primary (Noninterest) Surplus or Deficit (-)	4.1	4.4	1.7	-1.2	-2.9
Debt Held by the Public <sup>a</sup>	39.8	-7.8	-40.8	-49.5	-37.2
Gross Domestic Product (Trillions of dollars)	9.3	15.7	24.0	36.2	54.6

SOURCE: Congressional Budget Office.

NOTES: CBO's "save total surpluses" scenario assumes that total (on- and off-budget) surpluses in 2000 through 2010 match those in Table 3.

NIPA = national income and product accounts.

a. Negative debt represents nonfederal assets held by the government.

**Table 7.**  
**Projections of Federal Receipts and Expenditures Under CBO's "Save No Surpluses" Assumption,**  
**Calendar Years 1999-2040 (As a percentage of GDP)**

	1999	2010	2020	2030	2040
NIPA Receipts	20.2	18.8	18.8	18.8	18.8
NIPA Expenditures					
Federal consumption expenditures	5.1	5.2	5.2	5.2	5.2
Federal transfers, grants, and subsidies					
Social Security	4.1	4.3	5.2	6.2	6.9
Medicare	2.2	2.9	4.2	5.6	6.6
Medicaid	1.2	1.7	2.4	3.1	3.8
Other	3.5	2.8	2.8	2.8	2.8
Net interest	<u>2.8</u>	<u>1.8</u>	<u>1.4</u>	<u>4.2</u>	<u>17.4</u>
Total	19.0	18.8	21.2	27.1	42.7
NIPA Surplus or Deficit (-)	1.2	0	-2.4	-8.4	-23.9
<b>Memorandum:</b>					
Primary (Noninterest) Surplus or Deficit (-)	4.1	1.8	-1.1	-4.1	-6.5
Debt Held by the Public	39.8	22.2	24.4	64.7	184.1
Gross Domestic Product (Trillions of dollars)	9.3	15.5	23.4	34.0	46.6

SOURCE: Congressional Budget Office.

NOTES: CBO's "save no surpluses" scenario assumes that the total (on- and off-budget) surplus in each year from 2001 through 2010 is zero (an on-budget deficit offsets the off-budget surplus).

NIPA = national income and product accounts.



## Details of the Assumptions Underlying CBO's Long-Term Projections

**T**he Congressional Budget Office (CBO) bases its long-term projections on a variety of assumptions about fiscal policy and about economic and demographic variables. Its analysis presents several alternatives to emphasize the extreme uncertainty of the projections and the difficulty of determining the set of assumptions that best represents the likely future path of the budget. This appendix discusses some of those assumptions.

Through 2010, the long-term projections are based on the inflated version of CBO's 10-year baseline projections issued in July 2000.<sup>1</sup> In most of the long-term projections CBO produced, the first 10 years exactly match the baseline projections. In some of the long-term projections, however, CBO modified the 10-year baseline by assuming that tax cuts and increased spending would dissipate some or all of the projected surpluses. Those modifications affect the economic projections by changing national saving: smaller surpluses decrease national saving and investment in the capital stock, which in turn reduces economic output. The projections do not incorporate the effects of changing incentives to work or save by altering marginal tax rates or the effects on productivity of the government's investments (for example, spending on research or education) because analyzing those effects would require assumptions about the details of future tax and spending policies.

After 2010, CBO uses current-law assumptions to project spending on Social Security and Medicare. Its long-term projections of outlays for Social Security are based on forecasts by the trustees of the Social Security trust funds, adjusted for CBO's economic assumptions; projections of Medicare outlays are based on projected health care costs per enrollee and the number and ages of enrollees.<sup>2</sup> For its midrange assumption about health costs, CBO assumed that cost growth per enrollee in Medicare in excess of wage growth (that is, excess growth in health costs) will slow from 2.1 percent to 1.1 percent between 2010 and 2025 and remain the same thereafter.

That assumption differs from the assumption CBO used in its previous long-term projections. In those analyses, most projections followed the trustees of the Medicare trust funds in assuming that the growth in excess health costs would slow to zero by 2025 (an assumption CBO retained in its current optimistic assumption about health costs). CBO's past reports noted that such an assumption might be overly optimistic and presented more pessimistic alternatives.

In this analysis, CBO chose to base most of its projections on an assumption that lies midway between an optimistic (no excess cost growth after 2025) and a pessimistic (no slowdown in cost growth) alternative. However, the future path of health costs is extremely uncertain, and outcomes outside the range

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1. See Congressional Budget Office, *The Budget and Economic Outlook: An Update* (July 2000).

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2. The long-term projections also follow those of the Social Security trustees in assuming that Social Security benefits will continue to be paid even if the trust fund is exhausted.

that CBO examined are possible. All of CBO's projections assume that cost growth per enrollee in Medicaid matches that in Medicare after 2025.

CBO uses simple rules rather than current law to extend most other categories of spending and revenues beyond 2010.<sup>3</sup> Its long-term projections assume that tax receipts and discretionary spending remain constant as shares of gross domestic product after the projection period's first 10 years. All of CBO's projections assume that spending on other nonretirement government transfer programs grows with demographic demands, inflation, and labor productivity.

CBO's projections assume that economic growth depends on hours of labor, the size of the capital stock, and total factor productivity (TFP). Hours of labor depend on the size of the population and the mix of ages within it. Most projections use the intermediate assumptions about population of the Social Security trustees; others use the trustees' low-cost (optimistic) or high-cost (pessimistic) assumptions. (Mortality and birth rates are higher under the low-cost

assumption and lower under the high-cost assumption.) The private capital stock grows as net investment is added; budget surpluses increase national saving and investment. Most of CBO's projections assume that TFP grows by 1.7 percent annually, its average rate over the postwar period, adjusted for changes in the way prices are measured. The optimistic and pessimistic assumptions raise and lower TFP growth by half a percentage point, respectively.

Interest rates also affect the budget. All of CBO's projections assume that interest rates move in tandem with the return on capital (that is, the return earned on productive capital, such as plant and equipment, after corporate taxes).

To be consistent with the economic variables in CBO's 10-year baseline, the long-term projections use the budget categories of the national income and product accounts (NIPAs). NIPA measures of spending and revenues differ from those in the total budget because of differences in accounting methods and the timing of some spending.<sup>4</sup>

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3. See Congressional Budget Office, *An Economic Model for Long-Run Budget Simulations*, CBO Memorandum (July 1997), for a detailed description of the methods CBO uses for its long-term projections.

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4. For a detailed description of the differences between NIPA and total budget accounting, see Appendix C of Congressional Budget Office, *The Budget and Economic Outlook: An Update*.